TCI AMERICA

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Combustible material; avoid heat and sources of ignition.** **Irritating to skin, eyes, and the respiratory system.** **Harmful compound, minimize exposure.** **This material is harmful to aquatic organisms.**	

Section I. Chemical Product and Company Identification

Chemical Name **Decane,**

Reference Material for Flash Point Certified by the Japan Petroleum Institute

Catalog Number: S0554

Synonym: n-Decane

Chemical Formula: $C_{10}H_{22}$

CAS Number: 124-18-5

Supplier: TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

In case of Emergency Call: **Chemtrec®**
(800) 424-9300 (U.S.)
(703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Decane, Reference Material for Flash Point Certified by the Japan Petroleum Institute	124-18-5	----------	Not available.	Rat LD_{50} (inhalation) >1396 ppm/8H Mouse LD_{50} (inhalation) 72300mg/m^3/2H

Section III. Hazards Identification

Acute Health Effects

Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Chronic Health Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Tumorigenic Effects:
Mouse TDLo (Dermal) 25 gm/kg/52 weeks, intermittent.
Toxic Effects:
Tumorigenic - Equivocal tumorigenic agent by RTECS criteria.
Skin and Appendages - Tumors
Tumorigenic - Tumors at the site fo application
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

Section IV. First Aid Measures

Eye Contact

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Inhalation

If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.

Ingestion

INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

Section V. Fire and Explosion Data

Flammability: Combustible.

Auto-Ignition: 208°C (406.4°F)

Flash Points: 50°C (122°F).

Flammable Limits: LOWER: 0.8% UPPER: 5.4%

Combustion Products: These products are toxic carbon oxides (CO, CO_2).

Fire Hazards: Not available.

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Emergency phone number (800) 424-9300

Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Combustible liquid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion. Consult with local fire authorities before attempting large scale fire-fighting operations.

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Combustible Material. Harmful Material. Irritating Material. Harmful to aquatic organisms. Keep away from heat. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and Storage

Handling and Storage Information	COMBUSTIBLE. HARMFUL. IRRITANT. HARMFUL TO AQUATIC ORGANISMS. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. Do not breathe gas/fumes/ vapor/spray. Always store away from incompatible compounds such as oxidizing agents.

Section VIII. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
Personal Protection	Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent. 
Exposure Limits	Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid. (Clear, colorless.)	Solubility	Miscible with alcohol. Soluble in Ether. Slightly soluble in carbon tetrachloride.
Specific Gravity	0.734 @ 15°C		
Molecular Weight	142.28	Partition Coefficient	Log P_{ow} 5.98
Boiling Point	174°C (345.2°F)	Vapor Pressure	0.17 kPa (@ 20°C)
Melting Point	-30°C (-22°F)	Vapor Density	4.9 (Air = 1)
Refractive Index	1.412	Volatility	Not available.
Critical Temperature	Not available.	Odor	Gasoline-like
Viscosity	0.838 mPa @ 25°C	Taste	Not available.

Section X. Stability and Reactivity Data

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents.

Section XI. Toxicological Information

RTECS Number	HD6550000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LD_{50} (inhalation) >1396 ppm/8H Mouse LD_{50} (inhalation) 72300mg/m^3/2H
Chronic Toxic Effects	**CARCINOGENIC EFFECTS** : Not available. **MUTAGENIC EFFECTS** : Not available. **TERATOGENIC EFFECTS** : Tumorigenic Effects: Mouse TDLo (Dermal) 25 gm/kg/52 weeks, intermittent. Toxic Effects: Tumorigenic - Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages - Tumors Tumorigenic - Tumors at the site fo application **DEVELOPMENTAL TOXICITY**: Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

Continued on Next Page ***Emergency phone number (800) 424-9300***

Acute Toxic Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	n-Decane may be released to the environment via the manufacture, use, and disposal of many products associated with the petroleum, gasoline, and plastics industries. n-Decane is obtained mainly from refining of petroleum and is a component of engine fuel. It is used in organic synthesis, as a solvent, as a standardized hydrocarbon, and in jet fuel research. n-Decane is a constituent in the paraffin fraction of petroleum and natural gas. n-Decane has been identified in the emissions from volcanoes. If released to air, a vapor pressure of 1.43 mm Hg at 25 deg C indicates n-decane will exist solely as a vapor in the ambient atmosphere. Vapor-phase n-decane will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is approximately 33.2 hours. If released to soil, n-decane is expected to have low to no mobility based upon estimated Koc values in the range of 1700 to 43,000. Volatilization from moist soil surfaces is expected to be an important fate process based upon a Henry's Law constant of 5.2 atm-cu m/mole, which is calculated from n-decane's vapor pressure and water solubility, 0.052 mg/l at 25 deg C; however, adsorption to soil is expected to attenuate volatilization. Based on n-decane's vapor pressure it may volatilize from dry soil surfaces. In biodegradation studies in soil, hydrocarbons with molecular weights equivalent to or lower than decane disappeared from the soil in both active and sterile treatments by the first sampling time (5 days), indicating that evaporation was a major removal process. If released into water, n-decane is expected to adsorb to suspended solids and sediment based upon estimated Koc values. Sea-water from Narragansett Bay, U.S. was spiked with n-(1-14C)decane. Mass balance was calculated after a 2.5 week experiment and showed that 71-82% of the radio-labeled n-decane had been mineralized to 14CO2. Volatilization from water surfaces is expected to be an important fate process based upon n-decane's Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 3.5 hours and 4.7 days, respectively; however, volatilization from water surfaces is expected to be attenuated by adsorption to suspended solids and sediment in the water column. An estimated BCF of 140 suggests the potential for bioconcentration in aquatic organisms is high. Hydrolysis is not expected to be an important environmental fate process since n-decane lacks functional groups that hydrolyze under environmental conditions. Occupational exposure to n-decane may occur through inhalation and dermal contact with this compound at workplaces where n-decane is produced or used. Monitoring data indicate that the general population may be exposed to n-decane via inhalation of ambient air, ingestion of food and drinking water, and dermal contact with consumer products containing n-decane.

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

Section XIV. Transport Information

DOT Classification	DOT Class 3: Flammable liquid
PIN Number	UN2247
Proper Shipping Name	n-Decane
Packing Group (PG)	III
DOT Pictograms	

Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS D-2B: Material causing other toxic effects (TOXIC). On DSL.
EINECS Number (EEC)	204-686-4
EEC Risk Statements	R10- Flammable. R18- In use, may form flammable/explosive vapor-air mixture. R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R52- Harmful to aquatic organisms.
Japanese Regulatory Data	ENCS No. 2-10

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Section XVI. Other Information

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Notice to Reader

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